

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 :
G02F 1/1335, G02B 5/30

A1

(11) International Publication Number: WO 97/01788

(43) International Publication Date: 16 January 1997 (16.01.97)

(21) International Application Number: PCT/US96/07658

(22) International Filing Date: 24 May 1996 (24.05.96)

(30) Priority Data:
08/494,776 26 June 1995 (26.06.95) US

(71) Applicant: MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

(72) Inventors: OUDERKIRK, Andrew, J.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). COBB, Sanford, Jr.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). CULL, Brian, D.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). WEBER, Michael, F.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US). WORTMAN, David, L.; P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

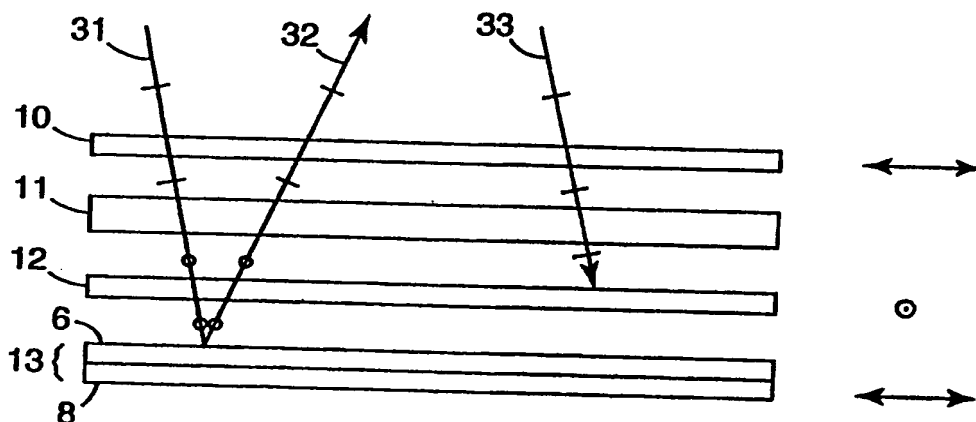
(74) Agents: BARTINGALE, Kari, H. et al.; Minnesota Mining and Manufacturing Company, Office of Intellectual Property Counsel, P.O. Box 33427, Saint Paul, MN 55133-3427 (US).

(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: TRANSFLECTIVE DISPLAYS WITH REFLECTIVE POLARIZING TRANSFLECTOR



(57) Abstract

A transflector is described which increases efficiency and brightness under both ambient and supplemental lighting conditions in visual display applications. In one embodiment, the transflector includes a reflective polarizing element that reflects one polarization of light and transmits the other. In an alternate embodiment, the transflector includes a reflective polarizing element and a diffusing element such that the transflector diffusely reflects light of one polarization and transmits the other. The transflector is useful for both reflective and transflective liquid crystal displays.